



Hopunion CBS, LLC

US LIBERTY

Pedigree	Cross between colchicines-induced tetraploid female hop cultivar Hallertauer Mittlefruh and downy mildew resistant male.
Maturity	Early to mid-season
Yield	1100 – 1900 kg./ha. or 1000 – 1700 lb./ac.
Growth Habit	Columnar and quite vigorous
Disease/Pest Susceptibility	Moderately resistant to downy mildew. No Verticillium wilt symptoms observed.
Pickability/Drying/Baling	Fair to good
Cone-Structure	Smallish plump, dense cones
Lupulin	Moderate amounts, dark yellow in color
Aroma	Mild with a slightly spicy character
Alpha Acids	3.0 – 5.0% w/w
Beta Acids	3.0 – 4.0% w/w
Co-Humulone	24 – 30% of alpha acids
Storageability	35 – 55% alpha acids remaining after 6 months storage at 20° C
Total Oil	0.6 – 1.2 mls/100 grams
Myrcene	20 – 40% of whole oil
Humulene	35 – 40% of whole oil
Caryophyllene	9 – 12% of whole oil
Farnesene	<1% of whole oil
General Trade Perception	Aroma variety with close similarities to imported German aroma varieties, especially Hallertau.
Possible Substitutions	US or German Hallertau, German Tradition, Mt Hood, possibly Spalt
Typical Beer Styles	Lager, Pilsner, Bock, US Wheat, Kölsch
Additional Information	Released in the US in 1991. Of the four triploid Hallertau varieties released, Liberty most closely resembles the Hallertau cultivar.
Personal Notes:	